

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

Department website: <https://www.uwplatt.edu/department/civil-environmental-engineering> (<https://www.uwplatt.edu/department/civil-environmental-engineering/>)

Department Chair: Christina Curras

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Environmental Engineering Program Coordinator: Michael Penn

Office: 134 Ottensman Hall

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ABOUT THE DEPARTMENT AND MAJORS

The UW-Platteville Department of Civil and Environmental Engineering offers two bachelor of science degrees: civil engineering and environmental engineering. The civil engineering degree requirements include completion of one emphasis area: construction, environmental, municipal, structural, geotechnical or transportation. The environmental engineering degree requirements provide a background in all of the major areas of environmental engineering.

MAJORS

- Civil Engineering Major, B.S. (<http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/civil-environmental-engineering/civil-bs/>)
 - Construction Engineering Emphasis
 - Geotechnical Engineering Emphasis
 - Environmental Engineering Emphasis
 - Structural Engineering Emphasis
 - Transportation Engineering Emphasis
 - Municipal Engineering Emphasis
- Environmental Engineering Major, B.S. (<http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/civil-environmental-engineering/environmental-bs/>)

CIVIL ENGINEERING

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University of Wisconsin Platteville's B.S. program in civil engineering is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org> (<http://www.abet.org>).

The UW-Platteville Civil Engineering Program gives students a broad background in all areas of civil engineering, while permitting specialization in the senior year. Practical applications are emphasized with sufficient theory so that the individual can grow with the future as new materials, methods and designs develop. Students gain hands-on experience in laboratories and in the field to prepare them to contribute immediately.

Civil engineers plan, design and supervise the infrastructure of civil society. The infrastructure includes highways that connect our nation's cities, airports that serve travelers, bridges that span our rivers and harbors, dams and levees that control floods and supply water for cities, and wastewater treatment plants that protect the environment. Civil engineers also work with architects to design and supervise construction of buildings. The civil engineering design process begins with the accumulation and analysis of basic information about a project. This information may include the topography and geology for a highway; flood history of a river that must be bridged or dammed; population growth projections and water usage; laboratory analysis of construction materials; or pollution surveys of air, land and water. Using this information, civil engineers apply their knowledge of science and engineering design to meet a project's requirements, assuring its successful completion.

CIVIL ENGINEERING DEGREE PROGRAM VISION, OBJECTIVES AND OUTCOMES

VISION

The vision of the UW-Platteville Civil Engineering Program is to provide the education and training to create citizen engineers who will be leaders in the civil and environmental engineering profession and in their communities.

Citizen engineers are:

- able to address technical and non-technical issues
- attuned to the needs of their community and nation
- able and willing to engage in public policy
- appreciative of sustainability
- ethical
- innovative, but aware of risk
- lifelong learners

PROGRAM EDUCATIONAL OBJECTIVES

Within five years of graduation, our graduates are expected to

- (1) communicate effectively and accurately with technical and non-technical audiences
- (2) apply technical knowledge when solving engineering problems to satisfy client, industry and governmental requirements
- (3) evaluate projects from a holistic perspective including some or all of the following: sustainability, environmental impacts, ethics, aesthetics, politics, historical perspectives, social impacts, technical needs and costs
- (4) make significant and innovative contributions in their professional endeavors
- (5) have the ability to become registered professional engineers

STUDENT OUTCOMES

By graduation, students in our program are expected to attain the following student outcomes:

- (1) an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science and mathematics
- (2) an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety and welfare, as well as global, cultural, social, environmental and economic factors
- (3) an ability to communicate effectively with a range of audiences
- (4) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts
- (5) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks and meet objectives
- (6) an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- (7) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

ACADEMIC STANDARDS

PROGRAM REQUIREMENTS

Students must earn a 2.0 in the major, and have no more than two D/D+'s in CIVILENG/ENVENG courses counting towards the degree.

GENERAL REQUIREMENTS BACHELOR OF SCIENCE DEGREE

Course	Title	Credits
Total for graduation		124
Major studies		93

ENVIRONMENTAL ENGINEERING

<https://www.uwplatt.edu/department/civil-environmental-engineering> (<https://www.uwplatt.edu/department/civil-environmental-engineering/>)

Contact: Michael Penn, P.E.
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Phone: 608.342.1537
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University of Wisconsin Platteville's B.S. program in environmental engineering is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org> (<http://www.abet.org>).

The UW-Platteville Environmental Engineering Program provides a balance between basic science, engineering science and engineering design. The purpose of the curriculum is to develop in each student a thorough understanding of the underlying environmental principles in the basic sciences along with practical applications in engineering design. Although emphasis is placed upon learning the fundamentals, each student will be encouraged to develop excellent technical and communication skills, become broadly educated and become a productive member of society. The UW-Platteville Environmental Engineering Program is designed to give students a broad background in all areas of environmental engineering. These include water and wastewater treatment, environmental and occupational health, solid waste management, water resources, environmental modeling and environmental chemistry. Practical applications are emphasized with sufficient theory so that the individual can develop innovative solutions as new problems are encountered.

Environmental engineering is the application of scientific and engineering principles to improve and maintain the environment for the protection of human health, nature's beneficial ecosystems and biodiversity, and for environment-related enhancement of the quality of human life. Through education and experience, environmental engineers develop an understanding of the earth's biological, chemical, physical and geological systems. They use this information to develop engineering plans for solutions to environmental problems caused by pollution. They also develop pollution prevention plans to keep environmental problems from developing in the first place.

Environmental engineers analyze contaminated streams, lakes, air, soil and groundwater to determine the extent and severity of contamination. These environmental measurements provide the basis for engineers to design treatment and remediation processes to remove and/or degrade pollutants. Environmental scientists and engineers work together with city or county officials, regulatory officials, consultants and nearby residents to achieve a solution to pollution problems.

ENVIRONMENTAL ENGINEERING DEGREE PROGRAM VISION, OBJECTIVES AND OUTCOMES

VISION

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Course	Title	Credits
Total for graduation		126-127
Major studies		95-96

MAJORS

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CERTIFICATES

- Civil Engineering Safety Certificate (<http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/civil-environmental-engineering/civil-engineering-safety-certificate/>)¹
- Environmental Engineering Safety Certificate (<http://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/civil-environmental-engineering/environmental-engineering-safety-certificate/>)²

¹ The Civil Engineering Safety Certificate is only available to students with a major in Civil Engineering, B.S.

² The Environmental Engineering Safety Certificate is only available to students with a major in Environmental Engineering, B.S.

FACULTY AND LECTURERS

Additional information about the Faculty and Lecturers below may be found in the Faculty and Academic Staff (<http://catalog.uwplatt.edu/faculty-academic-staff/>) section of this catalog.

Almquist, James N.

Bohnhoff, Gretchen L.

Curras, Christina J.

El-Omari, Samir

Fields, Kristina

Mahun, Gerald

Masoom, Fahmida R.

Owusu-Ababio, Samuel

Parker, Philip J.

Penn, Michael R.

Polebitski, Austin

Ragaby, Amr El

Schmitt, Robert L.

Wang, Xiaohong

Xiao, Xingqiang